

**AMENDMENTS TO THE CLAIMS**

Please amend claim 1, and cancel claims 20-33, 35 and 36 without prejudice, such that the status of the claims is as follows:

1. (Currently Amended) A pupilometer comprising image capturing means, illumination means comprising two spaced apart light sources, stimulation means, and image processing software, wherein said illumination means generates and emits light of a first wavelength, and said stimulation means generates and emits light of a second wavelength, and wherein said illumination means is arranged to one or both sides of said image capturing means and, in use, shines light towards an eyeball, wherein the image processing software receives data from the image capturing means, and by processing said data according to an algorithm establishes the distance between the surface of the eyeball and the image capturing means, wherein establishing the distance between the surface of the eyeball and the image capturing means includes detecting the pupil and measuring the size of the detected pupil.
2. (Previously Presented) A pupilometer according to Claim 1, wherein establishing the distance between the surface of the eyeball and the image capturing means includes finding highlights on the surface of the eyeball generated by the illumination means and calculating the distance between said highlights.
3. (Previously Presented) A pupilometer according to Claim 1, wherein the wavelength of the light generated by said illumination means is in the infra-red spectrum.
4. (Original) A pupilometer according to Claim 3, wherein each light source is an infra-red light emitting diode.
5. (Previously Presented) A pupilometer according to Claim 1, wherein the image capturing means has an optical axis, and wherein the two spaced apart light sources shine light in a direction

substantially parallel to the optical axis of the image capturing means.

6. (Previously Presented) A pupilometer according to Claim 1, wherein said stimulation means comprises a light emitting diode generating and emitting light in the visible spectrum.

7. (Previously Presented) A pupilometer according to Claim 1, wherein said image capturing means comprises a camera.

8. (Previously Presented) A pupilometer according to Claim 1, further comprising an optical filter mounted on the image capturing means.

9. (Previously Presented) A pupilometer according to Claim 8, wherein the optical filter passes only light of the first wavelength.

10. (Previously Presented) A pupilometer according to Claim 7, wherein said camera generates a video signal.

11. (Previously Presented) A pupilometer according to Claim 7, wherein said camera is a complementary metal oxide semiconductor device.

12. (Previously Presented) A pupilometer according to Claim 1, wherein said image detection means further includes a micro-controller including a micro-processor.

13. (Previously Presented) A pupilometer according to Claim 1, further comprising an analogue to digital converter arranged between said image capturing means and said micro-controller.

14. (Previously Presented) A pupilometer according to Claim 1, further comprising memory means.

15. (Previously Presented) A pupilometer according to Claim 1, further comprising data input means and display means.

16. (Previously Presented) A pupilometer according to Claim 1, further comprising an interface for linking said pupilometer to an external computer.

17. (Previously Presented) A pupilometer according to Claim 1, wherein said pupilometer is a hand-held device, wherein said hand-held device mounts said image capturing means, illumination means, stimulation means, image processing software, data input means, display means, a computer interface, said hand-held device including a hand grip.

18. (Previously Presented) A pupilometer according to Claim 17, wherein, in use, the user views the image of the eye displayed on the display means, the image having been captured by said image capturing means and processed by said image processing software.

19. (Previously Presented) A pupilometer according to Claim 1, further comprising a power supply consisting of a battery.

20-37. (Canceled)